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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/633,869	08/07/00	ZHANG H	0756-2100

EXAMINER	
SIMKOVIC,V	
ART UNIT	**PAPER NUMBER**
2812	

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DATE MAILED:
07/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/633,869	ZHANG ET AL.	
	Examiner	Art Unit	
	Viktor Simkovic	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 August 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,4* .

18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other: .

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 10, and 31 are provisionally rejected under the judicially created doctrine of double patenting over claims 1,8,17,24 of copending Application No. 09/615,842. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: While the present application claims a rectangular cross section of the laser beam and Application No. 09/615,842 claims a linear cross section, the two are essentially the same, since in practice a linear cross section will necessarily have a rectangular shape (albeit of a minimal thickness).

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1,2,6,8,10-13,17,19,31-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Chae. Chae teaches a method fabricating a semiconductor device having at least one thin film transistor comprising a channel region and a gate electrode, comprising the steps of:

forming a structure comprising an amorphous semiconductor thin film separated by a gate insulating film from a gate electrode on an insulating substrate;

irradiating said amorphous semiconducting film with a laser light to convert it to a polycrystalline film wherein said laser beam has a rectangular shaped cross section at said substrate, while relatively moving said laser beam along a scan direction which is orthogonal to the gate electrode and is parallel to the channel region.

See column 3, lines 45-68, and Figure 7.

With regard to claim 8, the peripheral circuit is a column driver.

With regard to claim 13, the beams are overlapping.

With regard to claims 32 and 33, the substrate contains both an active matrix circuit and a peripheral driving circuit.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 20-24 and 28-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Chae as applied to claim 1 above, and further in view of Weiner et al. Claim 21 introduces the additional limitation of implanting a dopant into the substrate before the laser irradiation. Such steps are well known in the art. See, for example, Weiner et al., column 1, lines 18-22. It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce a dopant, as the step of laser irradiating would also diffuse the impurity during the crystallization. With regards to claims 28-29, while Chae does not specify exactly 10 pulses, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller* 105 USPQ 233, 255 (CCPA 1955).

Claims 3-5,7,14-16, 25-27,30, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chae as applied to claim 1 above, and further in view of

Fehlner et al. While Chae does not specifically teach heating the film during the irradiation, Fehler et al. teach such a step (see column 3, lines 25-38). It would have been obvious to one of ordinary skill in the art at the time of the invention since as Fehler et al. teach, this reduces the amount of laser power necessary to effect the crystallization. With regards to claims 4, 15, and 26, the use of a metal catalyst to promote crystallization is well known in the art and official notice is hereby taken. With regards to claims 5,16, 27, top gate electrode TFTs are well known in the art and the process would be no different for such a device. With regard to claims 7, 15, 30, see the comments included under the rejection of claim 21. Finally, with regards to claim 36, the formation of source and drain regions is well known in the manufacture of TFT devices.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Viktor Simkovic whose telephone number is 703-308-6170. The examiner can normally be reached on Mon - Fri, 9:00 - 6:00, except every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on 703-308-3325. The fax phone numbers

for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Viktor Simkovic
July 1, 2001

John F. Niebling
Supervisory Patent Examiner
Technology Center 2800